```
=> d his

     (FILE 'HOME' ENTERED AT 11:54:24 ON 30 SEP 2004)

     FILE 'INSPEC' ENTERED AT 11:54:39 ON 30 SEP 2004
L1              0 DEVIAT##### AND CLAIBRAT#####
L2          76368 CALIBRAT#####
L3         234885 DEPOSIT#######
L4          16946 MOCVD OR METALOORGANIC OR METAL(A) ORGANIC
L5           8081 PROCESS(A)PARAMETER#
L6              1 L2 AND L3 AND L4 AND L5

     FILE 'CA' ENTERED AT 11:59:28 ON 30 SEP 2004
L7              1 L6

     FILE 'STNGUIDE' ENTERED AT 12:00:00 ON 30 SEP 2004

     FILE 'INSPEC' ENTERED AT 12:00:52 ON 30 SEP 2004

     FILE 'CA' ENTERED AT 12:01:03 ON 30 SEP 2004
L8         199282 DEVIAT#####
L9              1 L5 AND L3 AND L2 AND L8
L10             1 FD HIS
L11           240 L2 AND L3 AND L8
L12             1 L11 AND L4
L13       1297201 LAYER# OR FIM#
L14            23 L11 AND L13

=>
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 NEWS  2          "Ask CAS" for self-help around the clock
 NEWS  3  Jul 12  BEILSTEIN enhanced with new display and select options,
                  resulting in a closer connection to BABS
 NEWS  4  AUG 02  IFIPAT/IFIUDB/IFICDB reloaded with new search and display
                  fields
 NEWS  5  AUG 02  CAplus and CA patent records enhanced with European and Japan
                  Patent Office Classifications
 NEWS  6  AUG 02  The Analysis Edition of STN Express with Discover!
                  (Version 7.01 for Windows) now available
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 NEWS  8  AUG 27  BIOTECHABS/BIOTECHDS: Two new display fields added for legal
                  status data from INPADOC
 NEWS  9  SEP 01  INPADOC: New family current-awareness alert (SDI) available
 NEWS 10  SEP 01  New pricing for the Save Answers for SciFinder Wizard within
                  STN Express with Discover!
 NEWS 11  SEP 01  New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
 NEWS 12  SEP 14  STN Patent Forum to be held October 13, 2004, in Iselin, NJ
 NEWS 13  SEP 27  STANDARDS will no longer be available on STN
 NEWS 14  SEP 27  SWETSCAN will no longer be available on STN

 NEWS EXPRESS  JULY 30 CURRENT WINDOWS VERSION IS V7.01, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
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=> le inspec
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Some commands only work in certain files.  For example, the EXPAND
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```

Editor(s): Yoshikawa, A.; Kishino, K.; Kobayashi, M.; Yasuda, T.
Tokyo, Japan: Ohmsha, 1996. p.375-8 of xviii+580 pp. 7 refs. Availability: IOS Press, Van Diemenstraat 94, 1013 CN Amsterdam, Netherlands
Conference: Chiba, Japan, 5-7 March 1996
ISBN: 4-274-90096-7
DT Conference Article
TC Experimental
CY Japan
LA English
AB Contrary to conventional III-V **MOCVD**, during growth of III-nitride heterostructures for LEDs and lasers, a variety of **process parameters** must be varied. It is required that the reactor boundary conditions remain favorable and well controlled. This is not the case in most **MOCVD** reactors reported in the literature. Here, a novel approach is reported which was derived from the UHB-LED mass production Planetary Reactor AIX 2400. To obtain stable thermodynamic boundary conditions in the AIX 2000/2400 HT GaN reactor, the temperature of the quartz ceiling plate was made adjustable and controllable and could be held absolutely constant while wafer temperatures are varied in a very controlled manner to grow the various III-nitride layers. A temperature was chosen at which no growth and minimized **deposition** on the quartz ceiling takes place. Under these circumstances it was possible to go ahead with noncontact temperature measurement. A new cooled slit window was introduced and a pyrometer mounted on top of the reactor. The temperature profile of the susceptor and the wafer are monitored. The various temperature profiles at different absolute temperatures are characterized and for given growth temperatures the profiles were optimized (+or-2 degrees C across the 2" wafer). The rotation speed of the planetary and satellite discs at different temperatures could also be monitored. All temperature monitoring was **calibrated** at high temperatures using the melting point of silicon.
CC A8115H Chemical vapour deposition; A4255P Lasing action in semiconductors; A0720D Thermometry; A0720K High-temperature techniques and instrumentation; pyrometry; A8115G Vacuum deposition; B0510D Epitaxial growth; B4260D Light emitting diodes; B4320J Semiconductor lasers; B7320R Thermal variables measurement
CT III-V SEMICONDUCTORS; LIGHT EMITTING DIODES; MONITORING; PYROMETERS; SEMICONDUCTOR EPITAXIAL LAYERS; SEMICONDUCTOR GROWTH; SEMICONDUCTOR HETEROJUNCTIONS; SEMICONDUCTOR LASERS; TEMPERATURE MEASUREMENT; VAPOUR PHASE EPITAXIAL GROWTH
ST in-situ monitoring; **process parameters**; boundary conditions; **III-nitride MOCVD**; III-nitride heterostructures; LEDs; lasers; reactor boundary conditions; **MOCVD reactors**; UHB-LED mass production Planetary Reactor; AIX 2400 reactor; stable thermodynamic boundary conditions; IX 2000/2400 HT GaN reactor; quartz ceiling plate; wafer temperatures; III-nitride layers; **minimized deposition**; noncontact temperature measurement; cooled slit window; pyrometer; temperature profile; susceptor; temperature profiles; absolute temperatures; growth temperatures; satellite discs; planetary discs; temperature monitoring; melting point; Si
ET In; V; Ga*N; GaN; Ga cp; cp; N cp; C; Si

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commands which can be used in this file.

=> file inspec
COST IN U.S. DOLLARS                                      SINCE FILE      TOTAL
                                                               ENTRY    SESSION
FULL ESTIMATED COST                                             0.21       0.21

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FILE LAST UPDATED: 27 SEP 2004       <20040927/UP>
FILE COVERS 1969 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
    THE BASIC INDEX >>>

=> deviat##### and claibrat#####
         89362 DEVIAT#####
             1 CLAIBRAT#####
L1           0 DEVIAT##### AND CLAIBRAT#####

=> calibrat#####
L2       76368 CALIBRAT#####

=> deposit#######
L3      234885 DEPOSIT#######

=> mocvd or metaloorganic or metal(a) organic
         13877 MOCVD
             3 METALOORGANIC
        280775 METAL
        255866 ORGANIC
          6492 METAL(A) ORGANIC
L4       16946 MOCVD OR METALOORGANIC OR METAL(A) ORGANIC

=> process(a)parameter#
        701851 PROCESS
        794454 PARAMETER#
L5        8081 PROCESS(A)PARAMETER#

=> d his

     (FILE 'HOME' ENTERED AT 11:54:24 ON 30 SEP 2004)

     FILE 'INSPEC' ENTERED AT 11:54:39 ON 30 SEP 2004
L1             0 DEVIAT##### AND CLAIBRAT#####
L2         76368 CALIBRAT#####
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L4         16946 MOCVD OR METALOORGANIC OR METAL(A) ORGANIC
L5          8081 PROCESS(A)PARAMETER#

=> l2 and l3 and l4 and l5
L6             1 L2 AND L3 AND L4 AND L5

=> d l6 1 all

L6   ANSWER 1 OF 1  INSPEC  (C) 2004 IEE on STN
AN   1998:5958627  INSPEC     DN  A9815-8115H-090; B9808-0510D-126
TI   In-situ monitoring of process parameters and boundary
     conditions during III-nitride MOCVD.
AU   Strauch, G.; Hergeth, J.; Wachtendorf, B.; Volk, M.; Woelk, E. (AIXTRON,
     Aachen, Germany)
SO   Blue Laser and Light Emitting Diodes
```

```
L14  ANSWER 3 OF 23  CA  COPYRIGHT 2004 ACS on STN
AN   137:391338  CA
ED   Entered STN:  19 Dec 2002
TI   Metalorganic chemical vapor deposition method and apparatus
IN   Heuken, Michael
PA   Aixtron A.-G., Germany
SO   PCT Int. Appl., 29 pp.
     CODEN: PIXXD2
DT   Patent
LA   German
IC   ICM  C23C016-52
     ICS  C30B025-16
CC   75-1 (Crystallography and Liquid Crystals)
     Section cross-reference(s): 47
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.       DATE
     ---------------     ----   --------   --------------------  --------
PI   WO 2002092876        A1    20021121   WO 2002-EP4407        20020422
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
             CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     DE 10124609          A1    20021121   DE 2001-10124609      20010517
     EP 1390561           A1    20040225   EP 2002-730186        20020422
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     US 2004152219        A1    20040805   US 2003-715282        20031117
PRAI DE 2001-10124609     A     20010517
     WO 2002-EP4407       W     20020422
CLASS
 PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
 -------------   -----  ----------------------------------------------
 WO 2002092876   ICM    C23C016-52
                 ICS    C30B025-16
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AB   The invention relates to a device comprising a process chamber which is arranged in a reaction housing and which can be heated especially be supplying heat to a substrate holder. The apparatus comprises a gas inlet for the admission of gaseous starting material, whereby the decomposition products thereof are **deposited** on a substrate maintained by a substrate holder to form a **layer**; at least one sensor acting upon the inside of the process chamber for determining **layer** properties; an electronic control unit for controlling the heating of the process chamber; mass controllers for controlling the flow of the starting materials; and a pump for controlling the pressure of the process chamber. The electronic control unit forms modified process parameters from **deviation** values obtained upon growth of the **calibrating layer** with the aid of stored **calibrating** parameters, thereby controlling the heating of the process chamber, the flow controllers, and the pump during growth of the active **layer** sequence.

ST   chem vapor **deposition** process app

IT   Pyrometers
    (IR; metalorg. chemical vapor **deposition** method and apparatus)

IT   Control apparatus
     Process control
     Vapor **deposition** apparatus
    (metalorg. chemical vapor **deposition** method and apparatus)

IT Vapor **deposition** process
(metalorg.; metalorg. chemical vapor **deposition** method and apparatus)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bell Communications Res; WO 9120093 A 1991
(2) Kanaya, K; US 6217651 B1 2001 CA
(3) Nishizawa, J; EP 0545238 A 1993 CA
(4) On Line Techn Inc; WO 9915710 A 1999 CA
(5) Secr Defence Brit; WO 8705700 A 1987 CA
(6) Sony Corp; EP 0233610 A 1987 CA
(7) Zettler, J; PROGRESS IN CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS 1997, V35(1), P27 CA